



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/580,826

01/03/2007

Yoshihisa Doi

65341.00007

8305

32294 7590 11/25/2008
SQUIRE, SANDERS & DEMPSEY L.L.P.
8000 TOWERS CRESCENT DRIVE
14TH FLOOR
VIENNA, VA 22182-6212

EXAMINER

JENNINGS, STEPHANIE M

ART UNIT

PAPER NUMBER

4135

MAIL DATE

DELIVERY MODE

11/25/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/580,826	Applicant(s) DOI ET AL.	
	Examiner STEPHANIE JENNINGS	Art Unit 4135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20080208, 20060526</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 111, 121, 145, 146, LU. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly

Art Unit: 4135

connected, to make and/or use the invention. Claim 3 claims a specified temperature of the workpiece, yet there is no active heating step claimed.

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim is generally narrative and indefinite, failing to conform with current U.S. practice. It appears to be a literal translation into English from a foreign document and is replete with grammatical and idiomatic errors.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 7-10, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Minami, et al. US Patent No. 3,841,126.

Art Unit: 4135

Minami anticipates:

FIG. 1

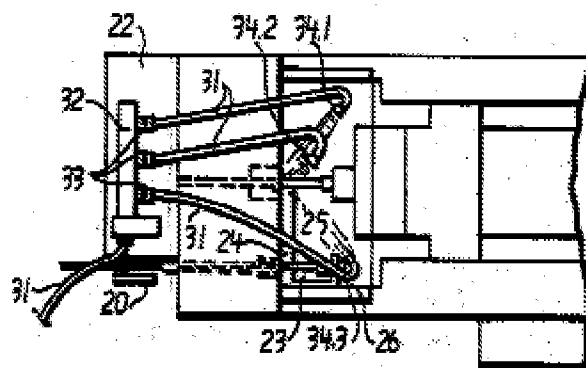
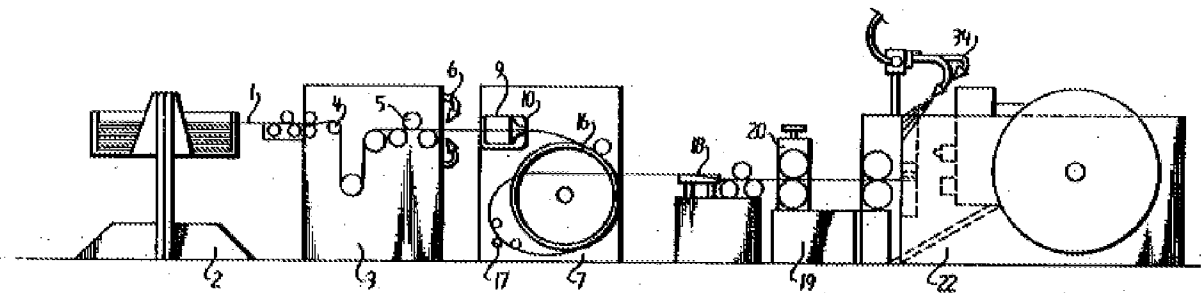


FIG. 3

Limitations from claim 1, a forging method including a plurality of press steps for a formed product, wherein a workpiece (1) heated due to the machining in an earlier press step(s) prior to a press step of forming the workpiece (1) undergoes spraying (34.1, 34.2, 34.3) with lubricant (9) more than once (figure 3 above, column 6, lines 16-38); the spraying with lubricant (9) is conducted when the lubricant sprayed in a preceding spraying has been dried (column 6, lines 16-38); and eventually after the lubricant sprayed in the final spraying has been dried, the

Art Unit: 4135

press step of forming the workpiece (1) is conducted (column 7, line 63-column 8, line 3). A drying step is inherent in the process as the lubricant will automatically dry as it is transferred during the press steps and therefore cannot be claimed.

Limitations from claim 3, a forging method as defined in claim 1, wherein a temperature of the workpiece (1) ranges from 150 to 250°C when the workpiece (1) is sprayed with lubricant (9) (column 1, lines 54-58).

Limitations from claim 7, a forging apparatus (figure 1) comprising an extruding apparatus (7, 10), wherein a workpiece (1) is successively transferred to a series of press stages (figure 1); a conveying unit (figure 1) for successively transferring the workpiece (1) is provided with a nozzle for spraying the workpiece with lubricant (34.1-34.3, figure 3); and the workpiece and the nozzle are located in fixed relative positions to each other in spraying the workpiece (1) with the lubricant (9) (figure 3). Multiple nozzles in a forging press are inherently located relative to each other and therefore cannot be claimed.

Limitations from claim 8, a forging apparatus as defined in claim 7, wherein the spraying with lubricant is conducted intermittently (column 7, line 63-column 8, line 3).

Limitations from claim 9, a forging apparatus as defined in claim 7, wherein there are more than one of the nozzles (34.1, 34.2, 34.3) from which the lubricant (9) is sprayed in different directions, and the nozzles spray the lubricant in a sequential fashion (figure 3 and column 7, line 63-column 8, line 3).

Limitations from claim 10, a forging apparatus as defined in claim 9, wherein after the lubricant sprayed from the nozzles has been dried, the lubricant is sprayed from the nozzles (figure 3 and column 7, line 63-column 8, line 3). A drying step is inherent in the process as the

Art Unit: 4135

lubricant will automatically dry as it is transferred during the press steps and therefore cannot be claimed.

Limitations from claim 12, a forging apparatus as defined in claim 7, wherein a temperature of the workpiece (1) ranges from 150 to 250°C when the workpiece (1) is sprayed with lubricant (9) (column 1, lines 54-58).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

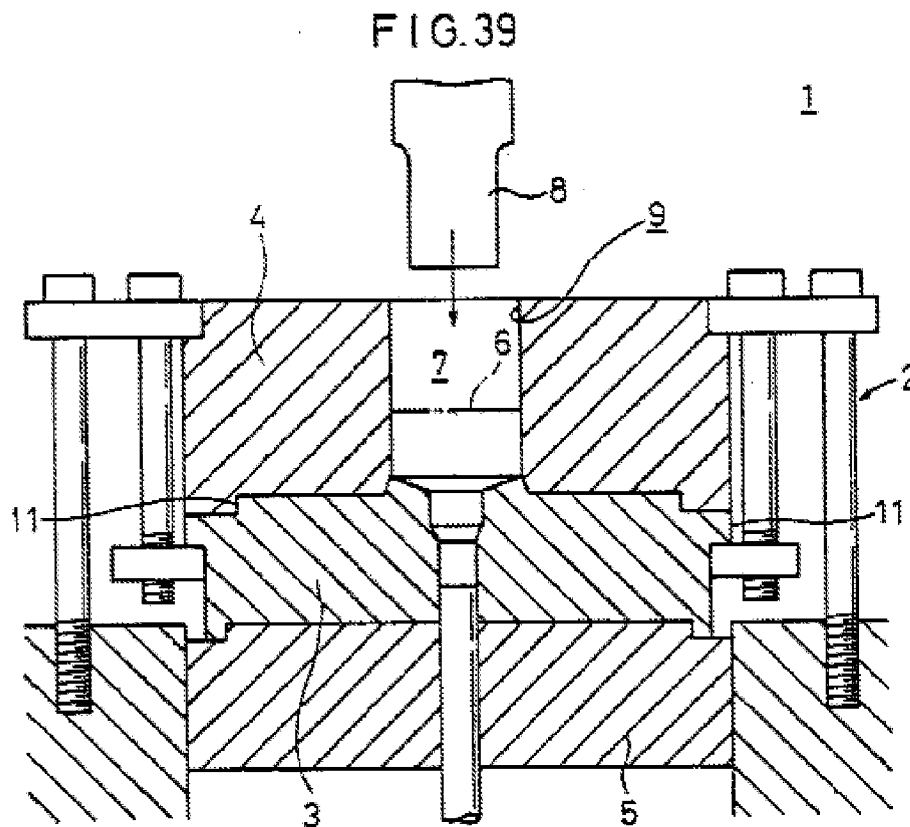
This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2, 5-6, 11, 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami as applied to claims 1 and 7 above, and further in view of Nagao et al. US Publication No. 2003/0213277 A1.

Minami teaches a method of lubricating a forging apparatus, but Minami's invention does not teach use of the apparatus with a constant-velocity universal joint outer race, a cup-shaped or shaft-shaped product.

Nagao teaches:



Art Unit: 4135

Limitations from claim 2, a forging method as defined in claim 1, wherein the workpiece is a constant-velocity universal joint outer race (page 1, paragraph 11).

Limitations from claim 5, a forging method as defined in claim 1, wherein the formed product is cup-shaped (8, figure 39 above) (page 1, paragraph 11 and page 2, paragraph 20).

Limitations from claim 6, a forging method as defined in claim 1, wherein the formed product is shaft-shaped (8, figure 39 above) (page 1, paragraph 11).

Limitations from claim 11, a forging apparatus as defined in claim 7, wherein the workpiece is a constant-velocity universal joint outer race (page 1, paragraph 11).

Limitations from claim 14, a forging apparatus as defined in claim 7, wherein the formed product is cup-shaped (8, figure 39 above) (page 1, paragraph 11 and page 2, paragraph 20).

Limitations from claim 15, a forging apparatus as defined in claim 7, wherein the formed product is shaft-shaped (8, figure 39 above) (page 1, paragraph 11).

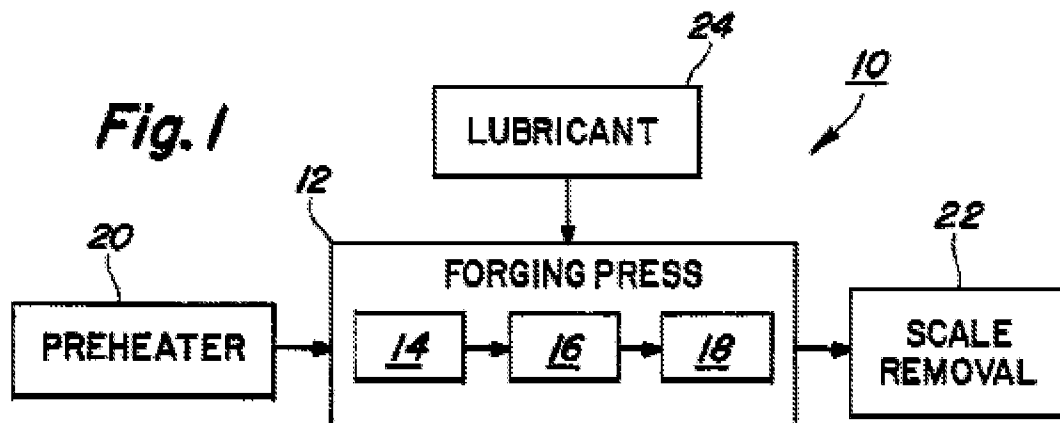
It would have been obvious at the time of invention to one of ordinary skill in the art to combine Minami's invention and Nagao's invention because a cup- or shaft-shaped constant-velocity universal outer race is a common product formed by forging presses and well-known in the art.

Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minami as applied to claims 1 and 7 above, and further in view of Graham US Patent No. 5,493,886.

Graham teaches the use of differing lubricants for use before and after forging in limitations from claims 4 and 13.

Art Unit: 4135

Graham teaches:



Limitations from claim 4, A forging method as defined in claim 1, wherein the lubricant (24, figure 1 above) before a forging procedure (12) is a water-dispersive lubricant containing a solid lubricant agent, a lubricative and dispersive adherent agent and a wetting and vaporizing accelerating agent, and the lubricant (24) during the forging procedure is a solid lubricant agent (column 3, lines 53-column 4, line 5 and column 4, lines 20-31).

Limitations from claim 13, A forging apparatus as defined in claim 7, wherein the lubricant (24) before a forging procedure (12) is a water-dispersive lubricant containing a solid lubricant agent, a lubricative and dispersive adherent agent, and a wetting and vaporizing accelerating agent, and the lubricant (24) during the forging procedure is a solid lubricant agent ((column 3, lines 53-column 4, line 5 and column 4, lines 20-31).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine Graham's invention with Minami's invention because the use the two types of lubricant allows for increased usability of the forging press as the different lubricants allow for different workpieces to be formed in the forging press.

Art Unit: 4135

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHANIE JENNINGS whose telephone number is (571)270-7392. The examiner can normally be reached on M-F, 7:30 am-5 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William M. Brewster can be reached on (571)272-1854. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. J./

Examiner, Art Unit 4135

November 17, 2008

/William M. Brewster/

Supervisory Patent Examiner, Art Unit 4135